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Letter to the Editor

Comment on Urban et al. "Assessment of Human Health Risks Posed by Consumption of Fish from the Lower Passaic River (LPR), New Jersey" (2009, doi:10.1016/j.scitotenv.2009.03.004)

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ABSTRACT

Urban et al. (2009) presented a human health risk assessment for the Lower Passaic River that very narrowly defines fish consumption, ignores crab consumption, and is not consistent with current NJ or EPA risk assessment procedures and guidance. The restrictively defined consumption then leads to inappropriate conclusions on the risk of eating fish from this highly contaminated estuarine river. The paper underestimates angler exposure to contaminated fish, does not evaluate exposure to contaminated crab, and underestimates the cancer risks and non-cancer health hazards associated with these exposure pathways. The New Jersey Department of Environmental Protection along with the NJ Department of Health and Senior Services issues fish and crab consumption advisories for all state waters; these advisories should be followed for the Passaic River and surrounding waters: http://www.state.nj.us/dep/dsr/FishSmartEatSmartNJ.org.

1. Introduction

The New Jersey Department of Environmental Protection has serious concerns with this paper due to the manipulations of data (resulting in biased low estimates of consumption), use of inappropriate data, and the risk statements made concerning consumption of fish.

1) The Lower Passaic River is known to contain some of the highest levels of 2,3,7,8-tetrachlorodibenzo-p-dioxin contamination in sediment, fish and crabs in the United States. The Introduction section of the subject paper fails to identify this important environmental characteristic of the Lower Passaic River.
2) The Introduction section discusses the 2000–2001 Creel Angler Survey [CAS] (Kinnel et al., 2007; Ray et al., 2007a,b) and how exposure factors from this survey are used in the risk assessment presented. However, the referenced CAS was found to be significantly flawed by the USEPA and NJDEP. The regulatory agencies did not approve the design of the survey and therefore the data generated by that study are not considered approved or valid for use in risk assessments for the Lower Passaic River.
3) The paper ignores crabbing in the Newark Bay Complex, as well as crab consumption. The blue crab is the species of choice for the majority of 'anglers' in the complex (NJDEP, 1995; Pflugh et al., 1999).
4) The risk assessment also fails to acknowledge that the multiple contaminants in the river continue to be bioaccumulated by fish and crabs and that these biota move and/or migrate to other areas of the river and estuary where they can be consumed by other recreational anglers.

The State of New Jersey (i.e., Departments of Environmental Protection and Health and Senior Services) issues fish advisories to the public. Statements by Urban et al. (2009) such as consuming fish from the Passaic River "… are not likely to pose a health risk…" are improper, inaccurate and misleading. New Jersey first issued advisories in 1982 including an Emergency Rule Adopted December 15, 1982 prohibiting the sale of striped bass and American eels from Hudson R., Upper NY Bay, Newark Bay, Lower Passaic R., Lower Hackensack R., Arthur Kill and Kill Van Kull based on PCB concentrations. In 1983, the Departments declared a prohibition on the sale or consumption of all fish and crabs taken from the tidal Passaic River (Administrative Order No. E0-40-17) due to dioxin contamination (Belton et al., 1985). A second administrative order was issued in 1984 that continued the prohibition against sale or consumption of any fish and shellfish taken from the Passaic R. from its mouth upstream to the Dundee Dam, and additionally prohibited the sale or consumption of striped bass and blue crabs taken from Newark Bay, the tidal Hackensack, the Arthur Kill, and Kill Van Kull. The State of New Jersey adopted a new rule (N.J.A.C. 7:25-14.11) on March 21, 1994 that banned the harvest of crabs from the Newark Bay Complex based in part on additional dioxin data (Cristini and Gross, 1993).

New Jersey has conducted risk assessments based on the contaminant data, as well as from angler survey data from the Passaic River and surrounding waters (Pflugh et al., 1999). The multiple

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contaminant reports and the risk assessment conducted in 2002 can be found on the Office of Science's webpage (http://www.state.nj.us/dep/dsr/publications/pub.htm). This screening risk assessment of crab consumption reported some of the highest risk levels ever calculated for a site in New Jersey. Therefore, the avoidance of crab consumption in this paper ignores a significant pathway of exposure.

NJ is working in close cooperation with the USEPA's revision to the draft Human Health Risk Assessment for the LPR and oversight of the Potentially Responsible Parties evaluation of cancer risks and non-cancer health hazards from consumption of fish and crabs from the entire 17 miles of the Passaic River.

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